

# Origins of Mousehold Heath landscape

Mousehold Heath is an upland plateau area overlooking the Wensum Valley. The high points in the area are composed of sediments of the Anglian glaciation.

Mousehold is a complex stack of glacial deposits resting on bedrock of Crag and Chalk.



Mousehold Heath and local terrain

## Landscape history

The following table explains the key stages in the development of the landscape we see today, through many fluctuations of global climate.

Years ago (approx)	Geology and landscape
75 million	Norfolk is part of a warm, tropical sea in the Cretaceous period. The White Chalk is deposited and forms the basement of the Norwich area. It is exposed along the base of the Wensum and Yare valleys, and can be seen at St James' Hollow.
75 to 0.7 million	Any sediment deposited during this time period is removed by erosion.
2 to 0.7 million	The Norwich area is near the western edge of the North Sea, part of a shallow marine or coastal environment in a cool temperate climate. The sands, gravels and clays of the Norwich Crag Formation are deposited on top of the chalk, followed by those of the Wroxham Crag Formation which include far-travelled quartz-rich pebbles thought to have been brought to the area by a major river draining the Midlands. The Norwich Crag can be seen at St James' Hollow, as can quartzose pebbles of the Wroxham Crag.
Between 630,000 and 475,000	A cold, glacial climate. The Norwich area is over-run by an ice-sheet from the north, which deposits a sequence of sands and clays known as the Happisburgh Formation (formerly called the North Sea Drift). These lie beneath the Mousehold Heath plateau, and the clays were exploited as an important source of brickearth for brick making, as at Gilman Road, Gurney Road, Hooper Lane and Oak Avenue.
450,000	Another ice sheet reaches the Norwich area from the north-west during the Anglian glaciation. It deposits the blue-grey till (boulder clay) and meltwater sands and gravels of the Lowestoft Formation to the south and west of Norwich. Mousehold Heath is not covered by the till sheet, but powerful meltwater streams issuing from under the ice front deposit beds of coarse torrent gravel across the area of the Heath. These outwash deposits form the plateau area of the Heath, and are exploited as a source of aggregates in a series of sand and gravel pits, as at Vinegar Pond, Chestnut Drive, Long Valley and Beech Drive.
420,000	The Wensum valley begins to develop in a landscape which has emerged after the retreat of the Anglian ice sheet.
400,000 to 100,000	Through several cycles of warm and cold climatic periods, Mousehold begins to take shape as an upland area on the edge of the Wensum Valley. Streams breach its tough capping of gravels and local valleys develop in the soft underlying rocks. This is the origin of the 'dry valleys' of Mousehold (in some climatic periods they are dry, and in others they contain streams).

- 100,000 to 10,000 The present landscape of Mousehold Heath reaches its present form during a complex of cold and cool periods known as the Devensian.
- Neanderthal humans visit the Heath during a milder period, perhaps 45,000 or 50,000 years ago. The landscape resembles parts of Lapland.
  - Ice sheets reach North Norfolk about 25,000 years ago, and Mousehold is part of the permafrost zone in a tundra climate. Seasonal freeze-thaw processes churn the ground; head deposits form as soil layers sludge downhill in summer and wind-blown silts are added to the topsoil.
  - Humans of our own species recolonise Norfolk from about 12,000 years ago as the climate becomes milder; their flint tools are found in the Mousehold area, eg near Dussindale Park.
- 10,000 to present day Mousehold becomes forested as the climate warms up into the present interglacial climatic period, the Holocene. Human impacts lead to the development of heathland and acidic podzol soils. Quarrying for chalk, flint, sand, gravel and brickearth alters the natural shape of the land, forming hollows and spoil heaps and excavating large areas on the western side of the Heath, particularly from 1850 to 1880. Road-building and local landscaping takes place after 1887.

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